J. W. MATTHEWS.

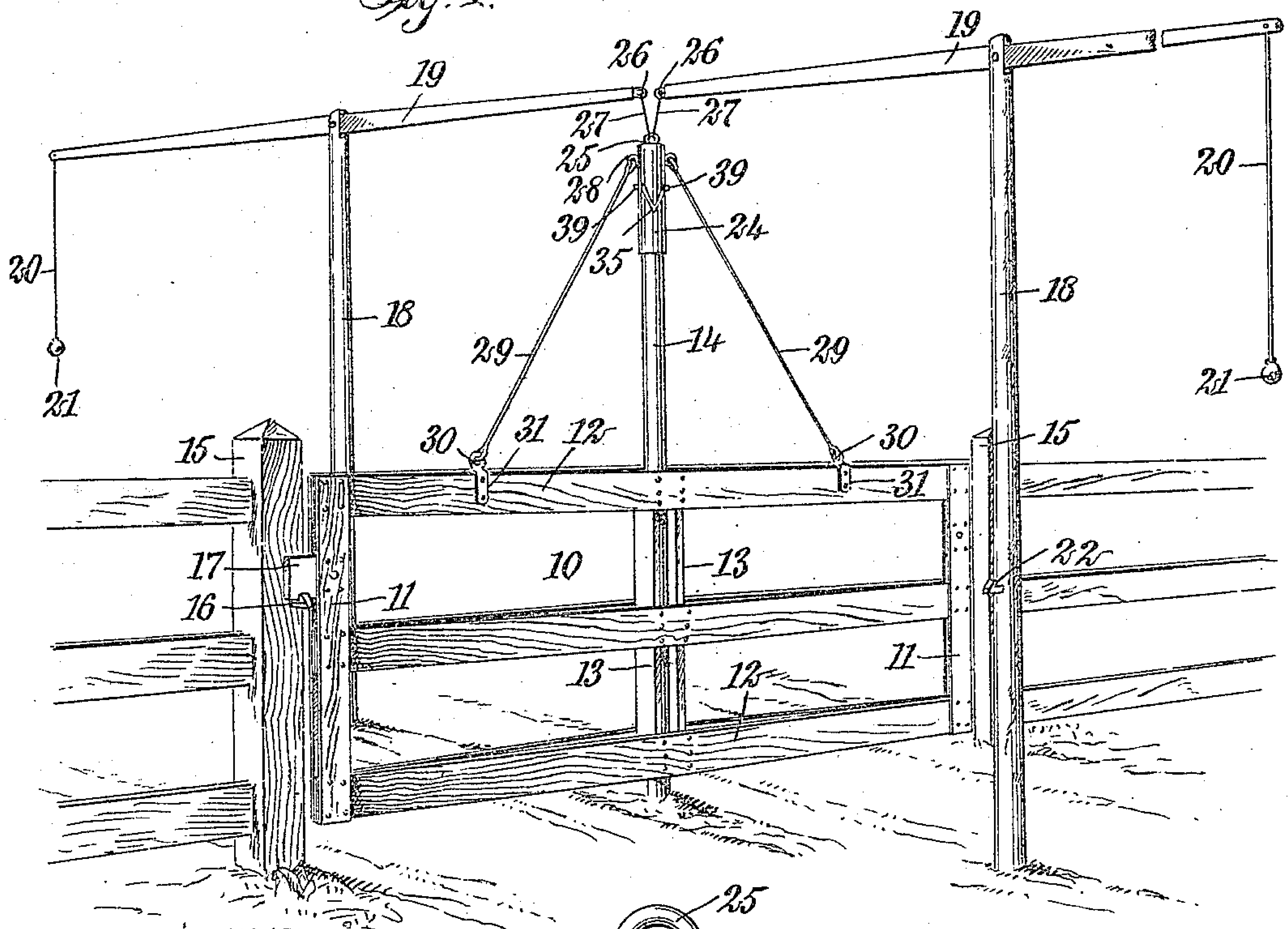
GATE.

APPLICATION FILED FEB. 4, 1909.

948,788. Patented Feb. 8, 1910.

2 SHEETS—SHEET 1.

Fig. 1.



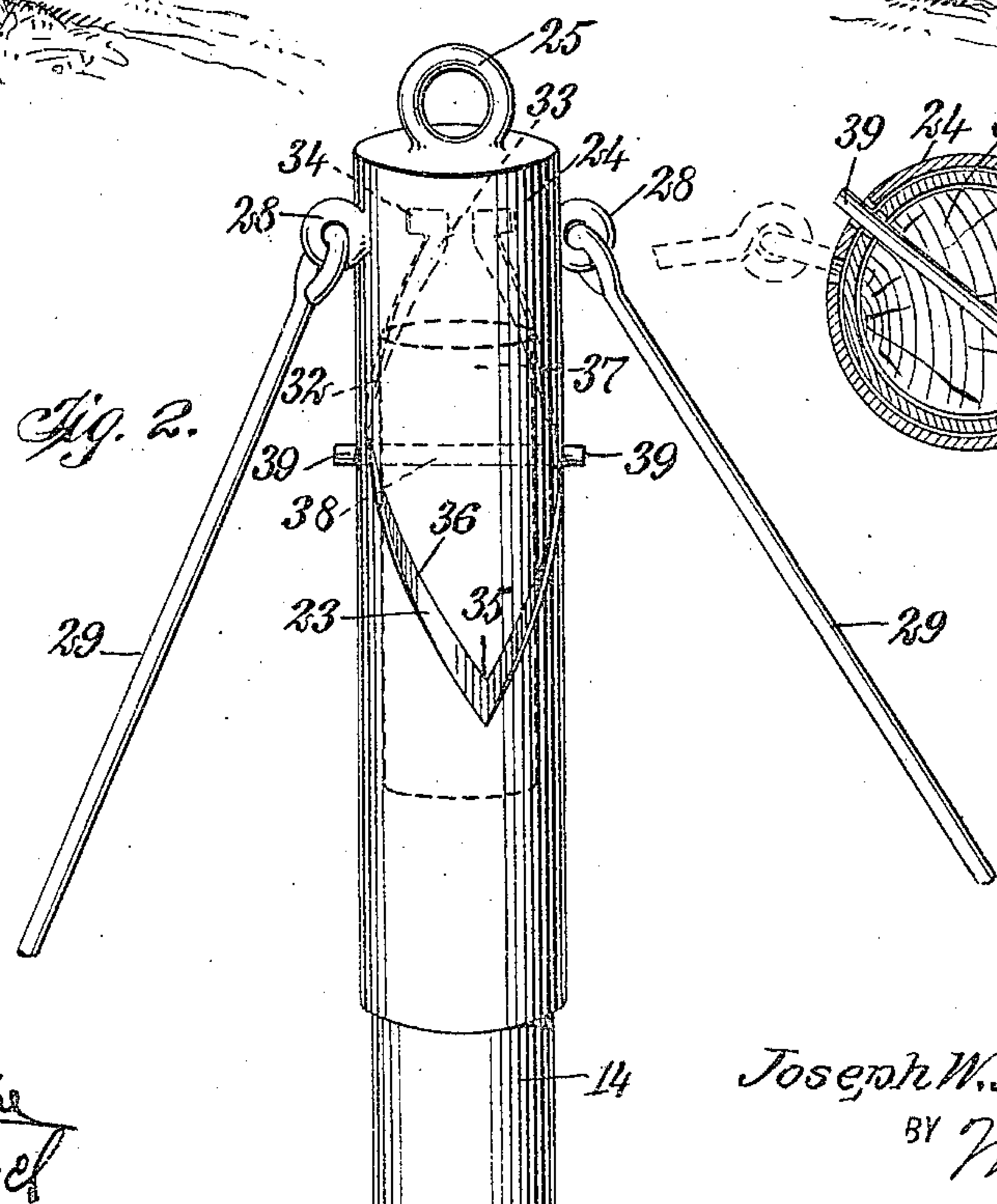


Fig. 2.

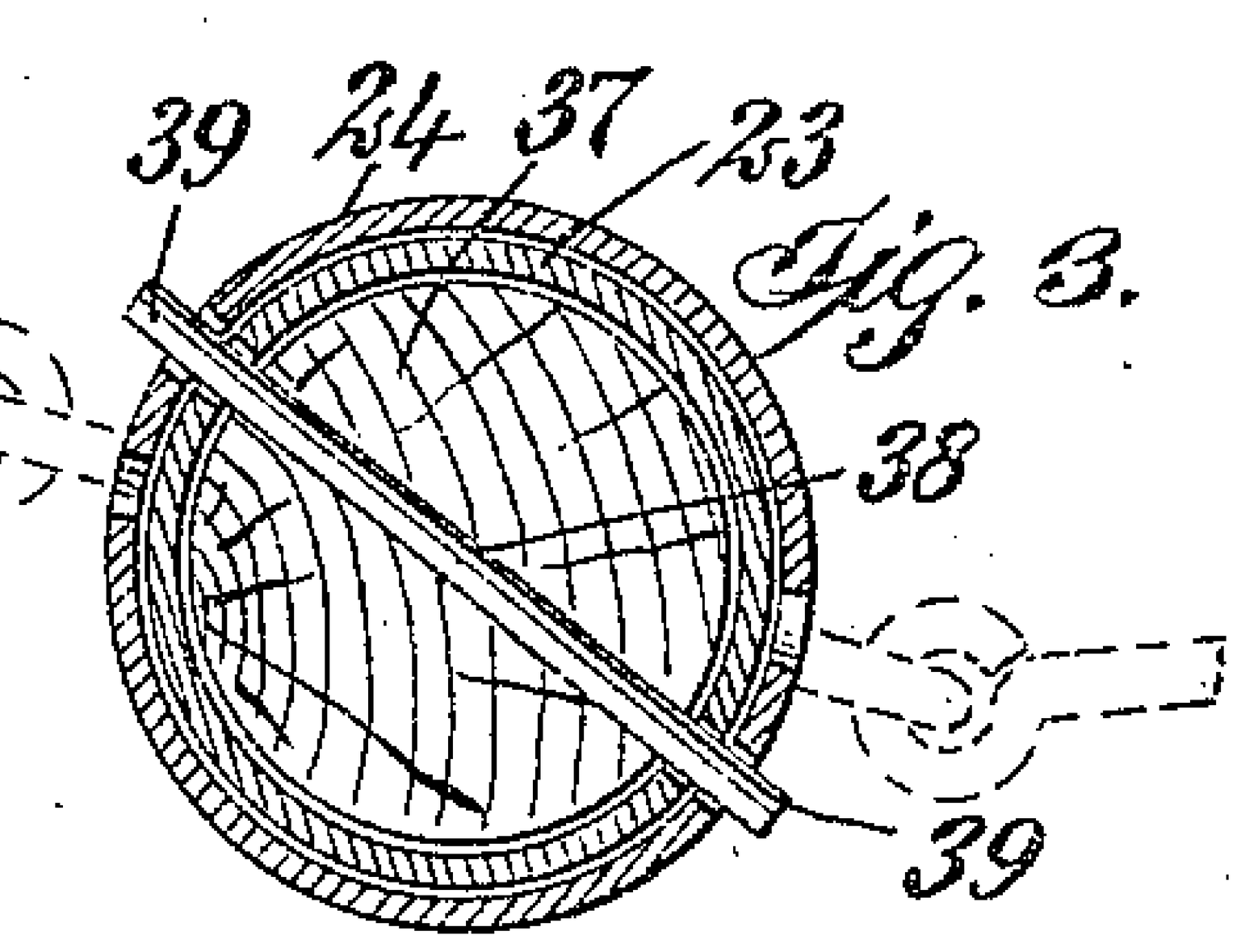


Fig. 3.

WITNESSES

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2 SHEETS—SHEET 2.

Fig. 4.

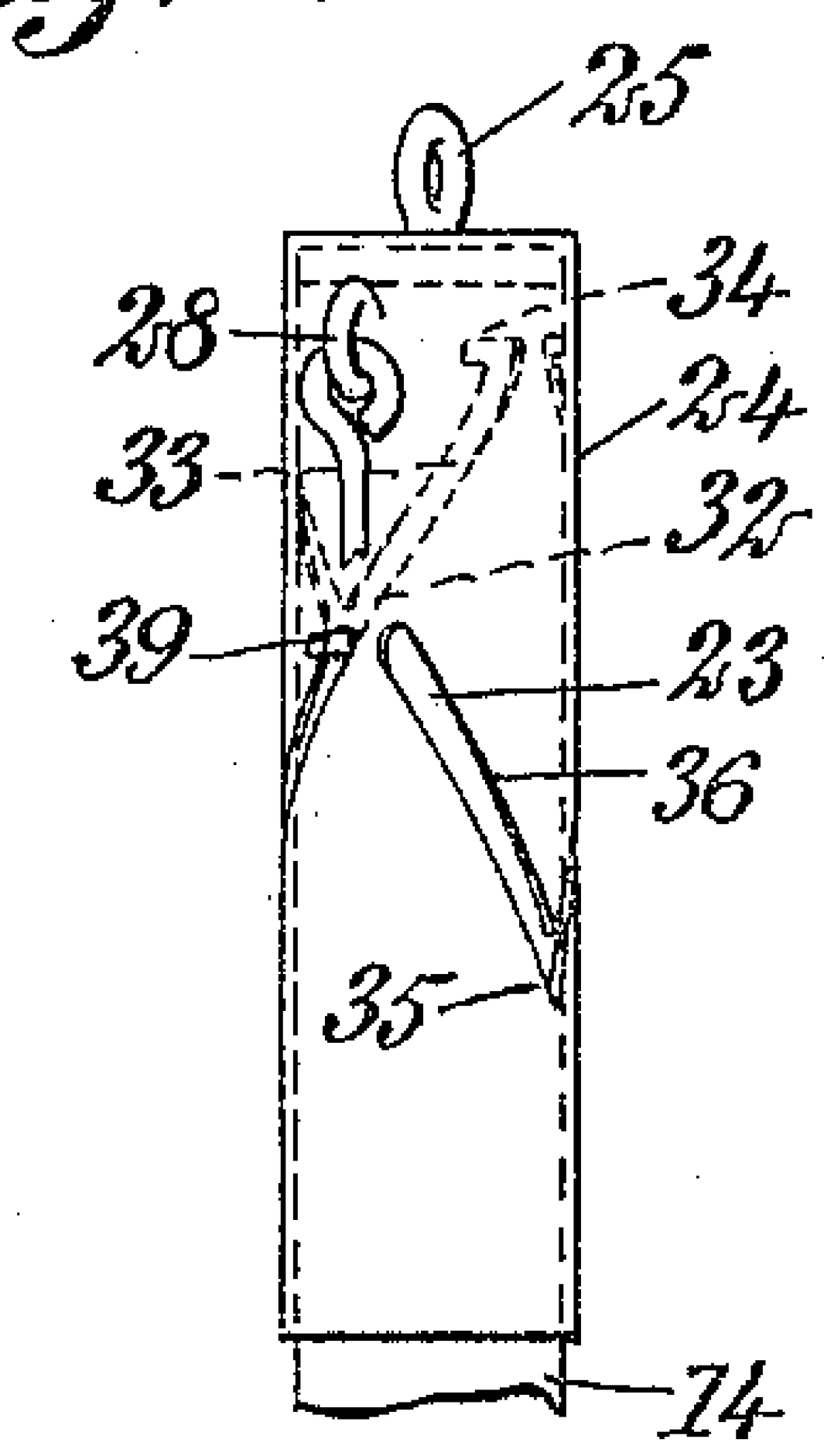


Fig. 5.

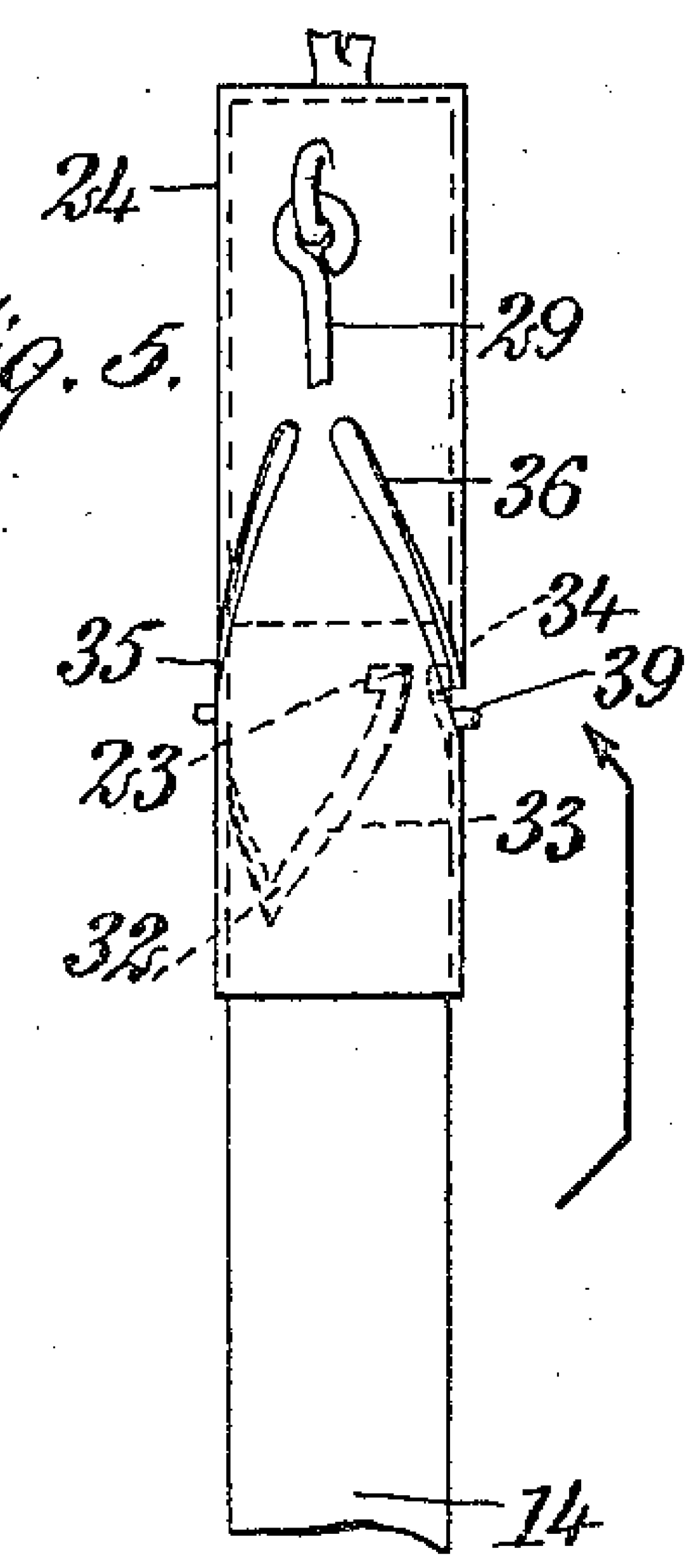


Fig. 6.

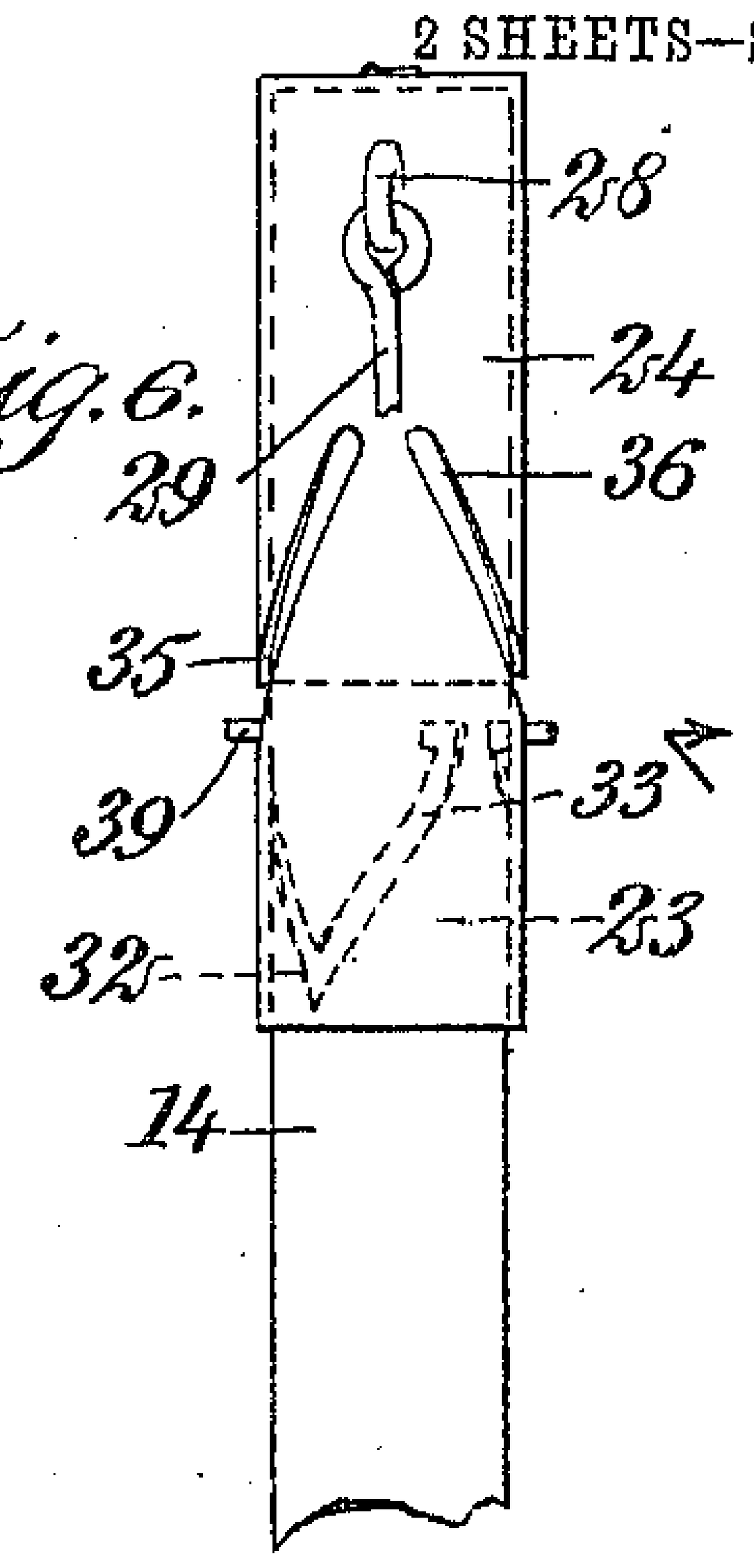


Fig. 7.

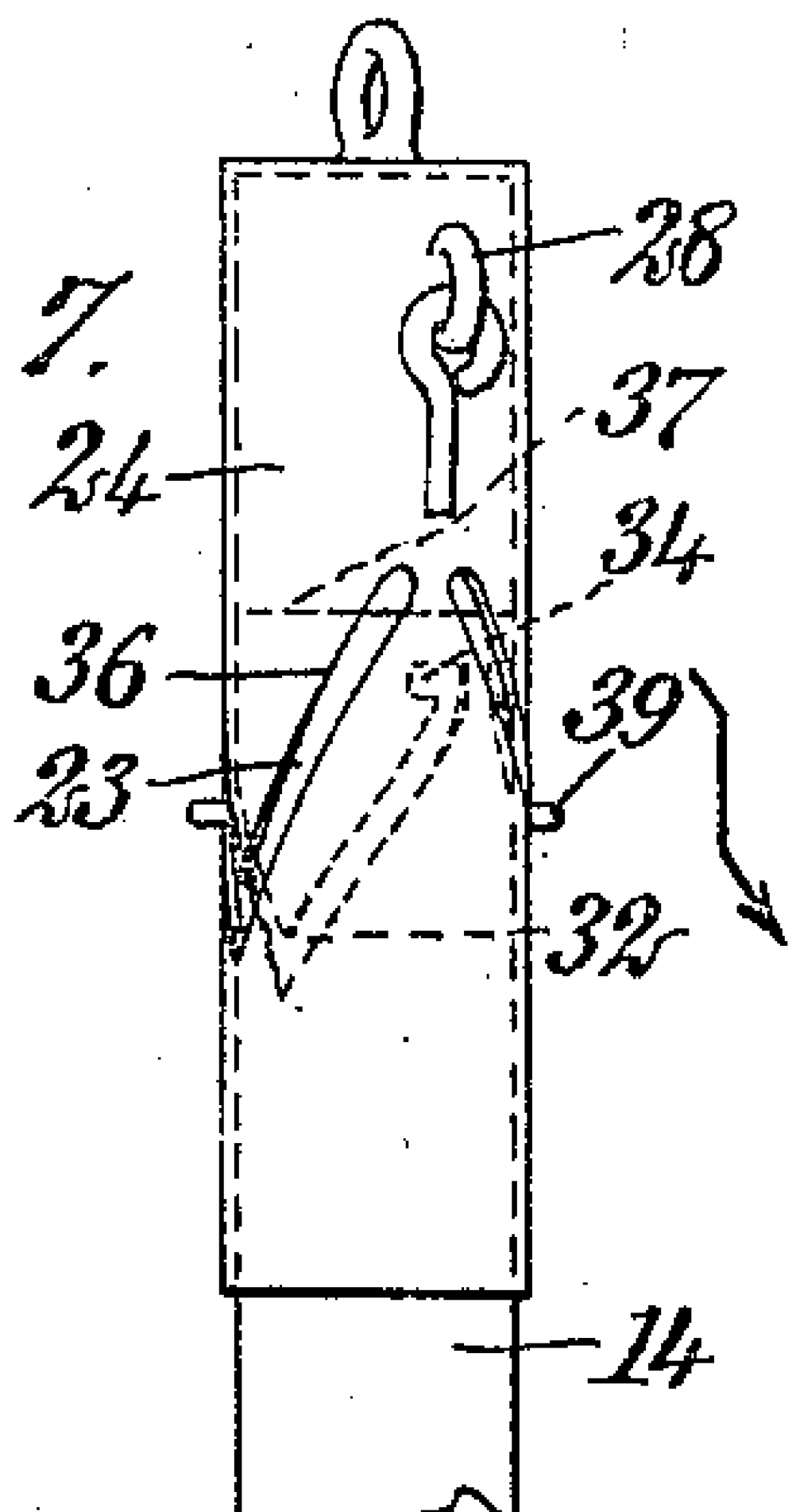


Fig. 8.

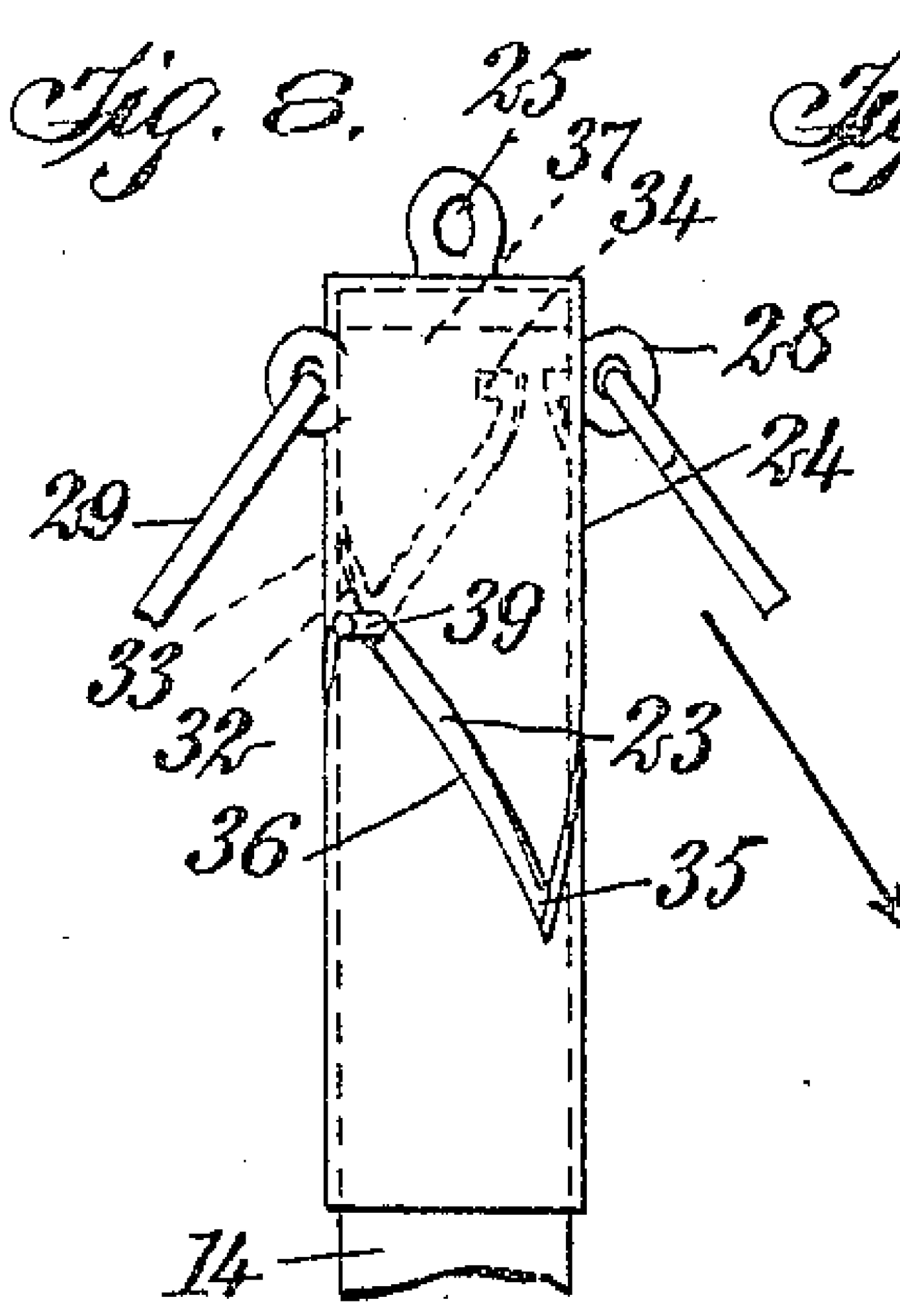


Fig. 9.

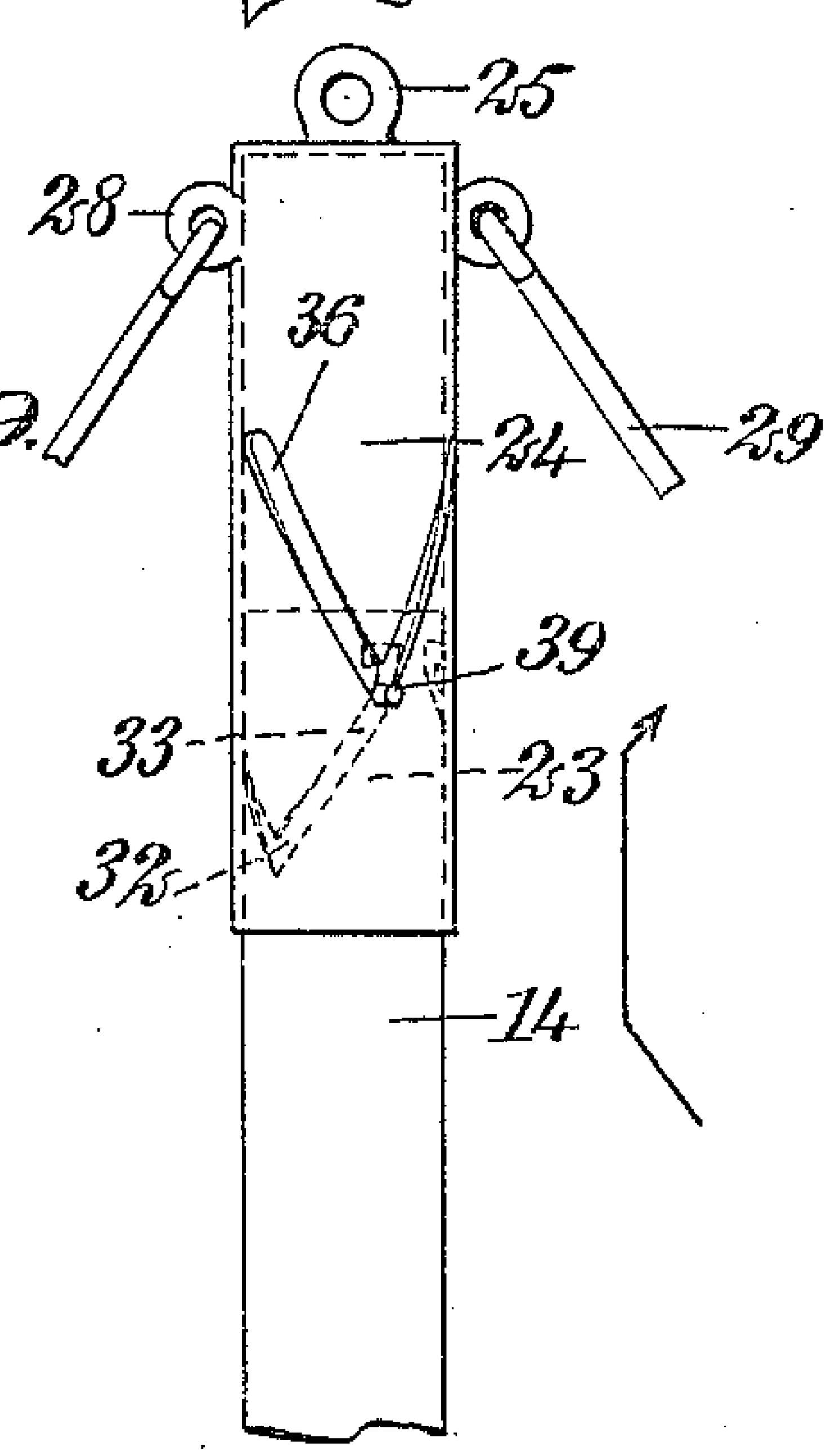


Fig. 10.

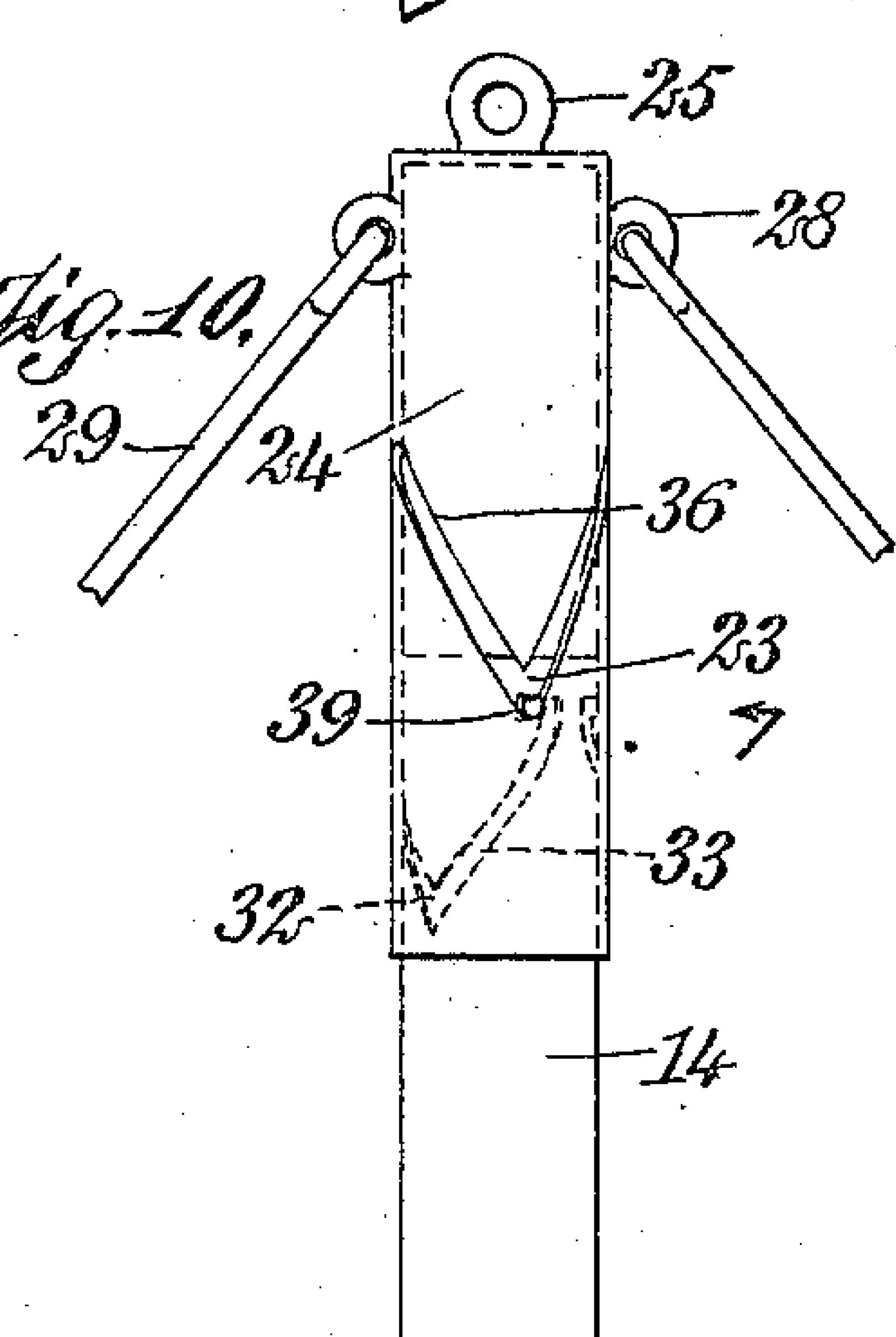


Fig. 11.

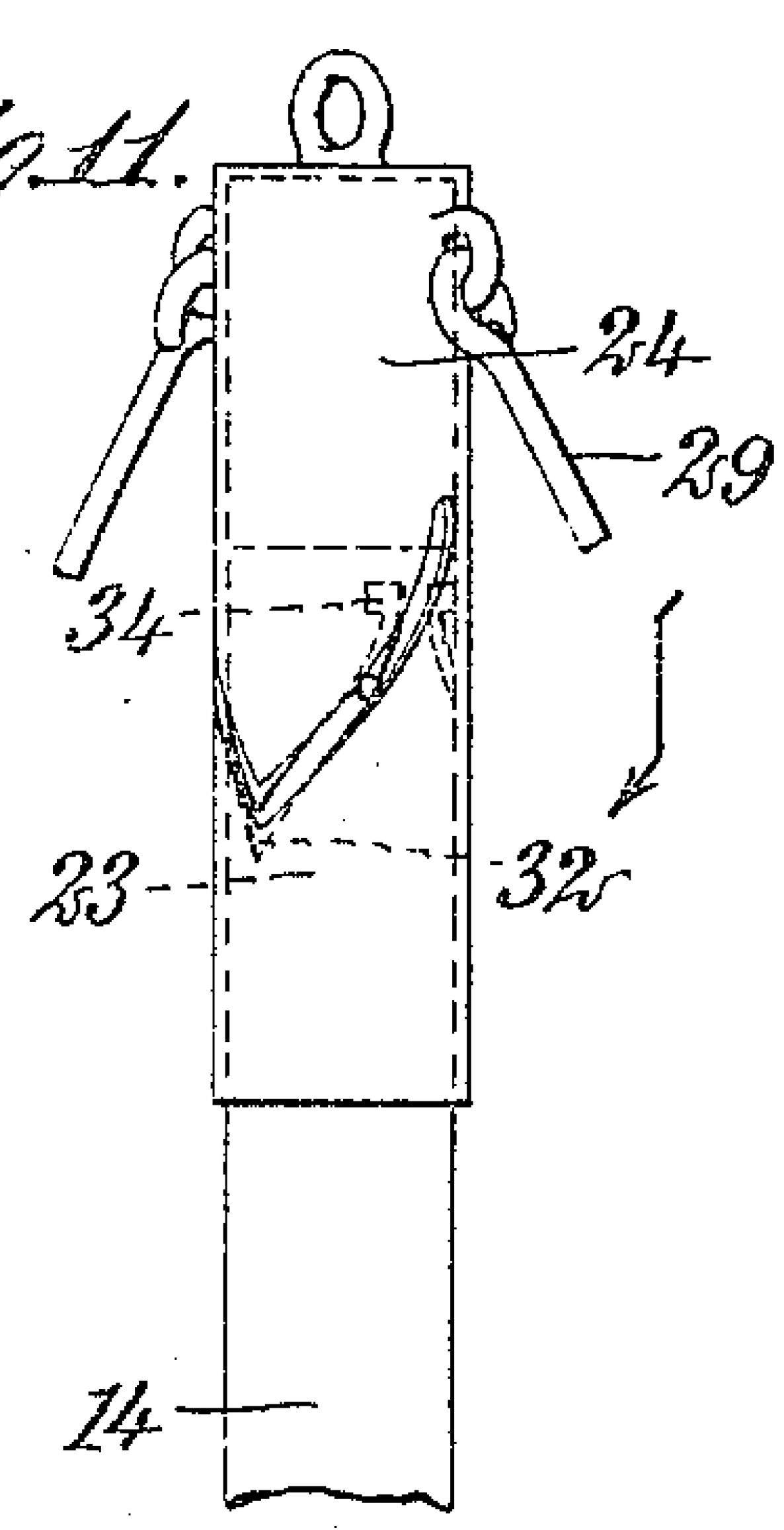
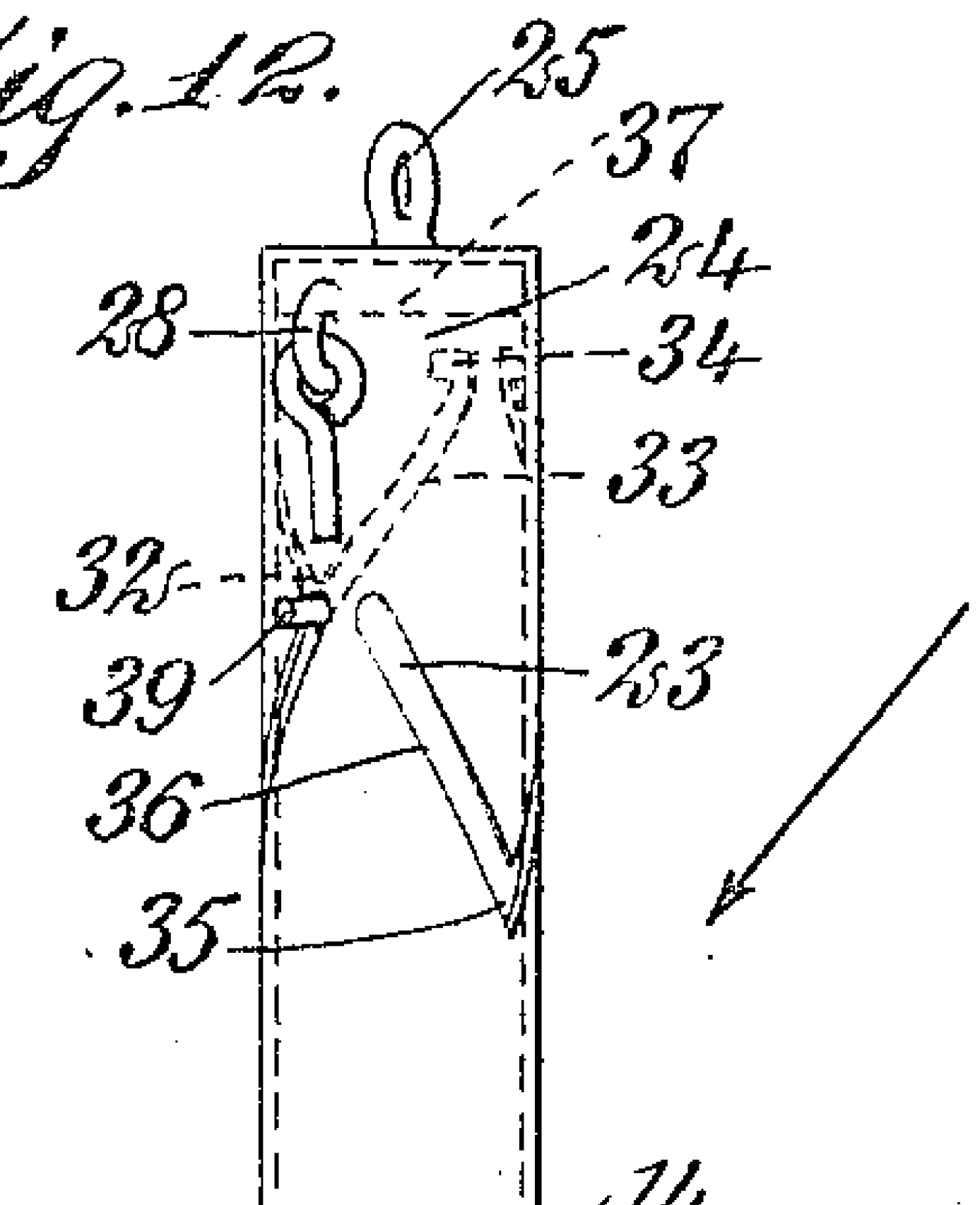


Fig. 12.



WITNESSES

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UNITED STATES PATENT OFFICE.

JOSEPH WILLIAM MATTHEWS, OF BRADY, TEXAS.

GATE.

948,788. Specification of Letters Patent. Patented Feb. 8, 1910.

Application filed February 4, 1909. Serial No. 475,999.

To all whom it may concern:

Be it known that I, JOSEPH WILLIAM MATTHEWS, a citizen of the United States, and a resident of Brady, in the county of McCulloch and State of Texas, have invented a new and Improved Gate, of which the following is a full, clear, and exact specification.

This invention relates to gates, and more particularly to that class of gates known as farm gates, which can be opened to permit the passage of a vehicle, by a person within the vehicle. It constitutes an improvement on my Patent No. 895386, issued August 4, 1908.

More specifically, the invention relates to a gate comprising a fixed standard, a gate body arranged to swing about the standard, the standard having a guideway, a movable crown or sleeve having a guideway and supporting the gate body, a movable member having a projection engaging both of the guideways, and suitable means for raising and lowering the crown from a point remote from the gate body, the means being operable by the occupant of a vehicle, the guideways being so arranged that the upward and downward movement of the crown swings the gate.

The object of the invention is to provide a simple, strong and durable farm gate which can be opened and shut from points remote from the gate itself, which is positive in operation, and which requires the expenditure of little effort to close or open it, the gate being operable, for example, by the occupant of a vehicle.

The invention consists in the construction and combination of parts to be more fully described hereinafter and to be pointed out particularly in the claims.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a perspective view of an embodiment of my invention, showing the gate closed; Fig. 2 is an enlarged perspective view of the upper part of the standard, showing the gate-controlling crown sleeve; Fig. 3 is a transverse section of the standard and the crown sleeve, showing the hangers connecting the body and the crown in dotted lines; and Figs. 4 to 12 are elevations showing the upper part of the standard and the crown sleeve thereon, and illustrating the parts in different positions, the direction of movement of the crown sleeve being shown by arrows.

Before proceeding to a more detailed explanation of my invention, it should be understood that the gate body used in connection with the device may be of any common or preferred form, but in the accompanying illustrations is shown a gate fashioned from wood or the like, and of a special three-bar type. If so desired, the gate body may be fashioned from metal, wire netting, or any suitable material, providing the body can swing freely as will appear hereinafter. While the invention is particularly useful in connection with farm gates, it is also applicable to similar devices for other purposes; for instance, in connection with railway grade-crossings, warehouse doors, and the like. The arrangement of the gate is such that it can be operated by an occupant of a vehicle which it is desired to drive through the gate, and for which purpose the gate must be opened; at the same time it is necessary to manipulate the gate, to close the same after the vehicle has passed therethrough. While this necessitates two operations, it is of advantage in that the gate does not prematurely close and interfere with the passage of the vehicle as is often the case when the gate is constructed to swing shut automatically. I provide levers for opening and closing the gate, one lever being provided at each side of the gate. As will appear in the following and more specific description the movements of the levers both to open and to close the gate are the same.

Referring more particularly to the drawings, 10 represents the body of the gate, consisting of end uprights 11, and bars or horizontal members 12. The end uprights comprise spaced strips or slats having the ends of the bars secured therebetween by means of nails or screws, or in any other convenient manner. The bars also consist of spaced strips or slats which, near the middle, have therebetween, spaced guide uprights 13. A fixed standard 14 is positioned between the guide uprights 13 and the slats of the bars, so that these parts serve to position the gate body with respect to the standard, and permit it to swing freely upon the same and to

slide longitudinally thereof. The standard may consist of any suitable upright having the lower end buried in the ground, or otherwise mounted in position. The gate posts 15, of any common or preferred form, are arranged at opposite ends of the gate body and carry catches 16 adapted to be engaged by latches 17. The latter are secured at the end uprights of the gate body and engage the catches to hold the gate shut, as is shown most clearly in Fig. 1. At each side of the gate, when the same is closed, is located a post or upright 18, the upper end of which is bifurcated and pivotally carries a lever 19. Each of these levers has one end normally positioned adjacent to the end of the standard. The other end of the lever has depending therefrom a line or cord 20, having a knob 21 at the lower end and constituting a pull by means of which the lever can be manipulated from a vehicle. Each of the posts 18 has a catch 22 adapted to receive one of the latches 17 to hold the gate open when the gate body is swung into position against the uprights and at substantially right angles with its closed position. The standard 14 at the upper end carries a rigid inner or fixed sleeve 23, fashioned from any suitable material and extending upwardly beyond the standard. An outer movable crown or sleeve 24, having the upper end closed and provided with a rigid eye 25, is arranged about the sleeve 23. The levers 19 at their adjacent ends have eyes 26, which are connected by means of suitable links 27 with the eye 25, so that the levers 19 control the crown. The links 27 may be of any suitable form and consist preferably of wire or the like. At opposite sides the crown has further eyes 28, at which are loosely secured rods 29 constituting links and having the lower ends similarly attached at I-brackets 30. The latter have bifurcated parts 31 mounted upon the upper gate body bar 12. The links 29 at the ends have eyes for attaching to the eyes 28 and to the brackets 30. It will be seen that through the provision of the links the crown 24 controls the gate body. The crown may be fashioned from any suitable material such as cast metal or the like, and preferably has the eyes 25 and 28 integral therewith.

The inner or fixed sleeve 23 at opposite sides has guideways 32 formed thereon. These guideways consist of V-shaped slots, the apexes of which point downward and the sides 33 of which are substantially helical. Each of the sides at the upper end has a laterally disposed extension 34, for a purpose which will appear more fully hereinafter. The crown at opposite sides has guideways 35, consisting of V-shaped slots, the apexes of which are downward, and the sides 36 of which form part of helices. Each of the guideways 35 corresponds to a guideway 32 and has the sides similarly inclined with respect to the sides of the guideway to which it corresponds. Within the inner sleeve 23 is loosely arranged a block or member 37, which has a transverse pin 38, the ends 39 of which extend through the guide slots of the fixed sleeve and the crown sleeve. It will be understood that the member 37 may be of any suitable form and may have projections which take the place of the ends of the pin 38. If so desired, the member may be cast from any suitable metal and have the projections integral therewith.

The weight of the gate body tends to maintain the crown sleeve in a normally depressed position, such that the ends 39 of the pin rest at the apexes of the guideways of the fixed sleeve and at the upper ends of the corresponding guideways of the crown, as is shown most clearly in Figs. 2, 4 and 8. When one of the lines 20 is pulled downward the corresponding lever is actuated to raise the crown, and at the same time to lift the gate body, moving it slidably upward upon the standard. This movement of the gate body disengages the latches 17 so that the gate is free to swing. The upward movement of the crown causes the guideways of the same to move along the pin ends 39, and owing to the helical formation of the guideway sides, the crown is thereby rotated. This rotary movement tends to swing the gate about the standard. When the lower ends of the guideways of the crown come into engagement with the extremities of the pin 38, the latter are forced upward in the guideways of the fixed sleeve, and owing to the form of these, the crown is thereby further rotated, so that the gate is swung open and against the uprights 18. The final movement of the crown forces the pin ends into the extensions 34. When the lever is released, the downward pull of the gate upon the crown causes the latter to move downward and the inner edges of the apexes of the crown guideways displace the pin ends from the extensions, so that the crown and the member 37 can return to their initial depressed positions. The lowering of the gate body also causes the latches to engage the catches 22 to hold the gate open.

The upward movement of the crown sleeve is accompanied by a rotary movement of the same, owing to the direction of inclination of the sides of the guideways engaged by the pin ends 39. During the downward movement of the crown sleeve, the latter has been rotated first in one direction and then in the other, owing to the fact that the guideway sides successively engaged by the pin ends during this downward movement are inclined in opposite directions, so that the gate is not swung in one direction or the other during the downward movement of the crown sleeve. The arrangement of the

guideways is such that the successive upward movements of the crown sleeve swing the gate in opposite directions; for example, the first upward movement of the crown sleeve when the gate is closed swings it into the open position, from which it is not displaced by the downward movement of the crown sleeve. The next upward movement of the crown sleeve causes the opposite sides of the guideways to become active to swing the gate shut, or in the opposite direction, and it is not displaced from the closed position by the subsequent downward movement of the crown. It will thus be seen that the gate is opened and shut by the same manipulation.

Having thus described my invention, I claim as new, and desire to secure by Letters Patent,—

1. A gate, comprising a movable gate body, a standard, a fixed guide member, a movable guide member, a guided member movable within said fixed guide member, said guide members each having a closed guideway, said guided member having a part engaging said guideways, means connecting one of said guide members and said gate body, and further means for operating one of said guide members from a point remote from said gate body.

2. A gate, comprising a movable gate body, a standard, a fixed sleeve carried by said standard and extending above the same, a movable sleeve outside of said fixed sleeve, a member movable within said fixed sleeve, said sleeves having closed guideways, said member having projections engaging said guideways, means connecting said movable sleeve and said gate body, and further means for operating said movable sleeve from a point remote from said gate body.

3. A gate, comprising a swinging gate body, a standard movably carrying said gate body and having a guideway, a movable crown having a guideway, a free movable member having a part arranged guidingly to engage both of said guideways, said crown having said gate body depending therefrom, and a lever for raising said crown, said lever being operable from a point remote from said gate body, said guideways being helical and having parts inclined in opposite directions.

4. A gate, comprising a swinging gate body, a standard having a guideway comprising oppositely disposed helical parts, a movable crown carried by said standard and having a guideway comprising oppositely disposed helical parts, a movable member having a projection engaging both of said guideways, hangers for supporting said gate body from said crown, and a lever controlling said crown and operable from a point remote from said gate body, one of said guideways having an extension adapted to receive said projection, whereby said projection is temporarily held against movement longitudinally of said standard.

5. A gate, comprising a standard, a gate body arranged to swing about said standard and to move longitudinally of the same, catches for holding said gate in a plurality of positions, a hollow member rigid with said standard and having a closed guideway, a movable crown sleeve encompassing said hollow member and having a closed guideway, hangers connecting said crown sleeve and said gate body, a movable member within said hollow member and having a projection engaging both of said guideways, and a lever controlling said crown sleeve to raise the same and operable from a point remote from said gate body, said gate body tending gravitatingly to maintain said crown sleeve in a normally depressed position.

6. A gate, comprising a standard, a gate body arranged to swing about said standard and to move longitudinally of the same, catches for holding said gate in a plurality of positions, a hollow member rigid with said standard and having a guideway, a movable crown sleeve encompassing said hollow member and having a guideway, hangers connecting said crown sleeve and said gate body, a movable member within said hollow member and having a projection engaging both of said guideways, and a lever controlling said crown sleeve to raise the same and operable from a point remote from said gate body, said gate body tending gravitatingly to maintain said crown sleeve in a normally depressed position, said guideways each being of V-shape and having the sides oppositely disposed and helical, said guideway of said hollow member at the upper ends having lateral extensions adapted to receive said projections to hold the same operative, said guideway of said crown sleeve being arranged to displace said projections from said extensions through the downward movement of said crown sleeve.

7. A gate, comprising a standard, a gate body arranged to swing about said standard, a sleeve rigid with said standard and having a guide slot, a crown sleeve movably carried by said standard and having a guide slot, hangers connecting said crown sleeve and said gate body, and a member movable within said sleeve rigid with said standard, and having a projection extending through said guide slots, said guide slots each consisting of connected, oppositely disposed helical parts.

8. A gate, comprising a standard, a gate body arranged to swing about said standard and to move longitudinally of the same, a sleeve rigid with said standard and extending above the same, a sleeve movable upon

said standard and having hangers for supporting said gate body, said sleeves each having a plurality of guide slots, a member movable within said first sleeve and having projections extending through said guide slots, said guide slots being of V-shape, said guide slots of said first sleeve at the upper extremity having laterally disposed extensions adapted to receive said projections of said member, to hold the same temporarily against movement longitudinally of said standard, and levers for raising said movable sleeve to open and close the gate.

9. In a gate, a gate body comprising end uprights, horizontal bars connecting said uprights and each consisting of spaced members, and guide uprights arranged between said members intermediate the ends of said bars, said members and said guide uprights constituting means for guidingly mounting said body upon a standard.

10. In a gate, a gate body comprising end uprights, each consisting of spaced members, horizontal bars each consisting of spaced members having the ends secured between said spaced members of said end uprights, guide uprights arranged between said members of said horizontal bars intermediate the ends thereof, said guide uprights being spaced, and a standard received between said guide uprights and said members of said horizontal bars whereby said body is arranged to swing about said standard and to move longitudinally thereof.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOSEPH WILLIAM MATTHEWS.

Witnesses:
CARLITA M. MATTHEWS,
E. R. CROCKETT.